

PATENT  
Attorney Docket 591A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
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SWARTZ et al. )  
)  
Serial No.: 09/940,182 ) Art Unit: TBD  
)  
Filed: August 27, 2001 ) Examiner: TBD  
)

For: SYSTEM FOR DIGITAL RADIO COMMUNICATION BETWEEN A  
WIRELESS LAN AND A PBX

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Prior to examination on the merits, please enter the following preliminary  
amendment:

IN THE SPECIFICATION:

Page 1, last complete paragraph (last 9 lines on the page) REPLACE as follows:

This application is a continuation of United States Patent Application serial no.  
09/008,710 entitled "SYSTEM FOR DIGITAL RADIO COMMUNICATION  
BETWEEN A WIRELESS LAN AND A PBX" filed on January 16, 1998, now allowed,  
which is a continuation-in-part of United States Patent Application serial no. 08/866,690,  
entitled "PORTABLE SHOPPING AND ORDER FULFILLMENT SYSTEM" filed on  
May 30, 1997, abandoned, which is a continuation-in-part of United States Patent  
Application serial no. 08/780,023 entitled "INTRANET SCANNING TERMINAL

SYSTEM" filed on December 20, 1996, U.S. Patent No. 6,084,528, which is a continuation in part of United States Patent Application serial number 08/706,579 entitled "DEVICE AND METHOD FOR SECURE DATA UPDATES IN A SELF-CHECKOUT SYSTEM" filed on September 5, 1996, U.S. Patent No. 5,825,002, all of which are incorporated herein by reference in their entirety.

Page 6, seventh paragraph REPLACE as follows:

FIG. 10A, 10B, and 10C are functional block diagrams of a preferred embodiment of a phone and an access point connecting to the bus of a host device;

**IN THE CLAIMS:**

Cancel claims 1-44, without prejudice.

Add the following claims:

45. (New) A wireless telephone system, comprising:

at least one access point for communicating with mobile units using a wireless protocol;

a plurality of mobile units, each having a network address and a telephone extension address;

and a telephone service interface unit connected to said access point and a central office, said interface unit providing a correspondence between the telephone extension addresses of said mobile units and the network addresses of said mobile units;

wherein said mobile units can provide telephone communication with other mobile units using said network addresses, and wherein said mobile units can receive telephone communication from said central office addressed to said telephone extension addresses via said telephone service interface unit.

46. (New) The system of claim 45, wherein said interface unit comprises a gateway for providing said correspondence.

47. (New) The system of claim 45, wherein said correspondence is a mapping between the telephone extension addresses and the network addresses.

48. (New) The system of claim 45, wherein said interface unit comprises a PBX.

49. (New) The system of claim 45, wherein said mobile units are arranged to generate DTMF tones and to communicate said DTMF tones to said telephone service interface unit via said access point to establish a telephone connection to said central office.

50. (New) The system of claim 45, wherein said network addresses are IP addresses.

51. (New) In a local area network having at least one access point for providing wireless communication to mobile units, and a telephone service interface connected to said access point and a central office, a method of providing telephone service to said mobile units, said method comprising:

assigning telephone extension numbers and network addresses to said mobile units;

establishing telephone connections using data messages between said mobile units using said network addresses;

providing, for outgoing calls, DTMF signals from said mobile units as data messages to said telephone service interface to establish external telephone connections from said mobile units to said central office; and

receiving, for incoming calls, signals from said central office representing telephone extension numbers and correlating said extension numbers with network addresses to establish telephone connections from said central office to said mobile units.

52. (New) The method of claim 51 wherein said network addresses are IP addresses.

53. (New) A telephone system, comprising:

a PBX having a gateway for providing a correspondence between telephone extension numbers and network addresses;

telephone extensions having extension numbers connected to said PBX;

at least one data communications access point connected to said gateway of said PBX;

and a plurality of mobile units, arranged for radio data communication with said access point and each having a network address corresponding to a telephone extension number;

wherein said PBX receives telephone extension numbers corresponding to said mobile units and establishes a connection to said mobile unit via said access point using said corresponding network address, and wherein said mobile units generate DTMF signals corresponding to an extension number of a telephone extension and provide said DTMF signals as a data message to said PBX via said access point to establish a connection to said telephone extension.

54. (New) The system of claim 53, wherein said mobile units generate DTMF signals corresponding to an external telephone number and provide said DTMF signals to said PBX via said access point to establish a connection to said external telephone number.

55. (New) The system of claim 53, wherein said mobile units communicate with other mobile units via said access points using said network address.

56. (New) The system of claim 53, wherein said network addresses are IP addresses.

57. (New) A communication gateway for a wireless telephone system for communicating with a plurality of mobile units, each unit having a network address and a telephone extension address, said gateway including:

a memory for correlating telephone extension addresses of said mobile units with network addresses of said mobile units, said gateway connected to an access point and a public switched network;

wherein said mobile units can provide telephone communication with other mobile units via said gateway using said telephone extension addresses.

58. (New) A communication gateway for a wireless telephone system for communicating with a plurality of mobile units, each unit having a network address and a telephone extension address, said gateway including:

a memory for correlating telephone extension addresses of said mobile units with network addresses of said mobile units, said gateway connected to an access point and a public switched network;

wherein said mobile units can provide telephone communication with other mobile units using said network addresses, and wherein said mobile units can receive telephone communication from said public switched network addressed to said telephone extension addresses via said gateway.

59. (New) A wireless system of claim 58 wherein said mobile units are IP phones and said network addresses are IP addresses.

60. (New) A wireless system of claim 58 wherein said gateway is connected to said public switched network via a PBX.

61. (New) A wireless system of claim 58 wherein said mobile units are arranged to generate DTMF tones and to communicate said DTMF tones as data messages to said gateway via said access point to establish a telephone connection to said public switched network.

62. (New) A wireless system of claim 58 wherein said mobile units can provide telephone communication with other mobile units via said gateway using said telephone extension addresses.

63. (New) The wireless system of claim 62 wherein said mobile units are arranged to generate DTMF tones and to communicate said DTMF tones as data messages to said gateway via said access point to establish a telephone connection to said other mobile units.

64. (New) A wireless system of claim 58 wherein said mobile units can provide telephone communication with other mobile units using said network addresses without having to utilize said gateway.

65. (New) A wireless telephone system, comprising:

a plurality of mobile units, each having a network address and a telephone extension address; and

an interface unit connected to an access point, said interface unit including a memory for correlating telephone extension addresses of said mobile units and network addresses of said mobile units;

wherein said mobile units can provide telephone communication with other mobile units using said network addresses, and wherein said mobile units can receive telephone communication from other mobile units addressed to said telephone extension addresses via said interface unit.

66. (New) The wireless system of claim 65 wherein said interface unit comprises a gateway for providing said correlation.

67. (New) The wireless system of claim 65 wherein said correlation is a mapping between the telephone extension addresses and the network addresses.

68. (New) The wireless system of claim 65 wherein said interface unit comprises a PBX.

69. (New) The wireless system of claim 65 wherein said mobile units are arranged to generate DTMF tones and to communicate said DTMF tones as data messages to said



interface unit via said access point to establish a telephone connection to said public switched network.

70. (New) The wireless system of claim 65 wherein said mobile units can provide telephone communication with other mobile units via said interface unit using said telephone extension addresses.

71. (New) The wireless system of claim 70 wherein said mobile units are arranged to generate DTMF tones and to communicate said DTMF tones as data messages to said interface unit via said access point to establish a telephone connection to said other mobile units.

72. (New) The wireless system of claim 65 wherein said mobile units can receive telephone communication from said public switched network addressed to said telephone extension addresses via said interface unit.

73. (New) The wireless system of claim 65 wherein said mobile units can provide telephone communication with other mobile units using said network addresses without having to utilize said interface unit.

74. (New) In a local area network having at least one access point for providing wireless communication to mobile units, and a gateway connected to an access point and

a public switched network, a method of providing telephone service to the mobile units, said method comprising:

storing telephone extension numbers and network addresses assigned to the mobile units; and

receiving DTMF signals from the mobile units via said access point as data messages representing telephone extension numbers and providing a correspondence between said telephone extension numbers and said network addresses to establish telephone connections from a mobile unit to another mobile unit.

75. (New) In a local area network having at least one access point for providing wireless communication to mobile units, and a gateway connected to an access point and a public switched network, a method of providing telephone service to the mobile units, said method comprising:

storing telephone extension numbers and network addresses assigned to the mobile units;

receiving, for out-going calls, DTMF signals from the mobile units as data messages via said access point to establish external telephone connections from the mobile units to said public switched network; and

receiving, for incoming calls, signals from said public switched network representing telephone extension numbers and providing a correspondence between said telephone extension numbers and network addresses to establish telephone connections from said public switched network to the mobile units.

76. (New) The method of claim 75 further comprising:

transmitting said DTMF signals to a PBX.

77. (New) The method of claim 75 wherein said signals received from said public switched network are received via a PBX.

78. (New) The method of claim 75 further comprising:

receiving DTMF signals representing telephone extension numbers from the mobile units via said access point to establish telephone connections from the mobile units to other mobile units; and

providing a correspondence between said telephone extension numbers and network addresses to establish telephone connections from the mobile units to the other mobile units.

79. (New) The method of claim 75 further comprising:

establishing telephone connections using data messages between the mobile units using said network addresses.

80. (New) In a local area network having at least one access point for providing wireless communication to mobile units, and a gateway connected to an access point and a public switched network, a method of providing telephone service to the mobile units, said method comprising:

storing telephone extension numbers and network addresses assigned to the mobile units;

receiving DTMF signals from the mobile units via said access point as data messages representing telephone extension numbers and providing a correspondence between said telephone extension numbers and network addresses to establish telephone connections from the mobile units to other mobile units; and

receiving signals from said public switched network representing telephone extension numbers and providing a correspondence between said extension numbers and network addresses to establish telephone connections from said public switched network to the mobile units.

81. (New) The method of claim 80 further comprising,

establishing telephone connections using data messages between the mobile units using said network addresses.

82. (New) The method of claim 36 further comprising,

receiving DTMF signals from the mobile units as data messages via said access point to establish external telephone connections from the mobile units to said public switched network.

83. (New) A telephone system, comprising:

a gateway for providing a correspondence between telephone extension numbers and network addresses for a plurality of mobile units arranged for radio data communication with an access point, each of the mobile units having a network address corresponding to a telephone extension number;

wherein said gateway receives telephone extension numbers corresponding to said mobile units and establishes a connection to a mobile unit via said access point using said corresponding network address, and wherein said mobile units generate DTMF signals corresponding to an extension number of a telephone extension and provide said DTMF signals as a data message to said gateway via said access point to establish a connection to said telephone extension.

84. (New) The system of claim 83 wherein said gateway receives telephone extension numbers corresponding to said mobile units from other mobile units.

85. (New) The system of claim 83 wherein said gateway receives telephone extension numbers corresponding to said mobile units from a PBX.

86. (New) The system of claim 83 wherein said mobile units generate DTMF signals and to communicate said DTMF signals as data messages to said gateway via said access point to establish external telephone connections from said mobile units to said public switched network.

87. (New) In a local area network having an access point for providing wireless communication to mobile units, a method for establishing telephone communication from a first mobile unit to a second mobile unit, said method comprising:

storing a correlation between telephone extension numbers and network addresses of said mobile units;

receiving a dialed telephone extension number corresponding to said second mobile unit;

correlating said dialed telephone extension number to a network address; and

transmitting said network address to said access point using a wireless protocol to establish telephone communication with said second mobile unit.

88. (New) In a local area network having an access point for providing wireless communication to mobile units, a method for establishing telephone communication from a first mobile unit to a second mobile unit, comprising:

storing a correlation between names and network addresses associated with the mobile units;

receiving a name associated with a second mobile unit;

correlating said name to a network address; and

transmitting said network address to said access point using a wireless protocol to establish telephone communication with the second mobile unit.

89. (New) A wireless telephone system, comprising:

at least one access point for communicating with mobile units using a wireless protocol;

a plurality of mobile units, each having a network address and a telephone number including a telephone extension address;

and a telephone service interface connected to said access point and a central office, said interface including a gateway for providing a correspondence between said telephone numbers including said telephone extension addresses of said mobile units and network addresses of said mobile units;

wherein said mobile units can provide telephone communication with other mobile units using said network addresses, and wherein said mobile units can receive telephone communication from said central office addressed to said telephone numbers including said telephone extension addresses via said telephone service interface.

90. (New) In a local area network having at least one access point for providing wireless communication to mobile units, and a telephone service interface connected to said access point and a central office, a method of providing telephone service to said mobile units, comprising:

assigning telephone numbers, including telephone extension numbers, and network addresses to said mobile units;

establishing telephone connections using data messages between said mobile units using said network addresses;

providing DTMF signals from said mobile units as data messages to said telephone service interface to establish external telephone connections from said mobile units to said central office; and



receiving signals from said central office representing telephone numbers including telephone extension numbers and correlating said telephone numbers with network addresses to establish telephone connections from said central office to said mobile units.

91. (New) A telephone system, comprising:

a PBX having a gateway for providing a correspondence between telephone numbers, including telephone extension numbers, and network addresses;

telephone extensions having telephone numbers connected to said PBX;

at least one data communications access point connected to said gateway of said PBX;

and a plurality of mobile units, arranged for radio data communication with said access point and each having a network address corresponding to a telephone number;

wherein said PBX receives telephone numbers corresponding to said mobile units and establishes a connection to said mobile unit via said access point using said corresponding network address, and wherein said mobile units generate DTMF signals corresponding to a telephone number of a telephone extension and provide said DTMF signals as a data message to said PBX via said access point to establish a connection to said telephone number.

92. The system of claim 91, wherein at least one of the plurality of mobile units assigns distinctive rings to different priority calls.

### CONCLUSION


Pursuant to 37 C.F.R. § 1.121, Attachment A, showing the markup of changes to the Specification by this Amendment, is attached hereto.

Applicants respectfully submit that pending claims 45-92 contain allowable subject matter.

If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 that are not enclosed herewith, please charge such fees to Deposit Account No. 19-5407.

Should the Examiner be of the view that a telephone interview would expedite consideration of this Preliminary Amendment, please call the undersigned at (631) 738-5586.

Respectfully submitted,

By:   
Mark I. Koffsky  
Reg. No. 41,906

Dated: November 15, 2001

**ATTACHMENT A – SHOWING MARKUP OF CHANGES**

**IN THE SPECIFICATION:**

Page 1, last complete paragraph (last 9 lines on the page) has been  
AMENDED as follows:

This application is a **continuation of United States Patent Application serial no. 09/008,710 entitled "SYSTEM FOR DIGITAL RADIO COMMUNICATION BETWEEN A WIRELESS LAN AND A PBX" filed on January 16, 1998, now allowed, which is a** continuation-in-part of United States Patent Application serial no. 08/866,690, entitled "PORTABLE SHOPPING AND ORDER FULFILLMENT SYSTEM" filed on May 30, 1997, **abandoned[currently pending]**, which is a continuation-in-part of United States Patent Application serial no. 08/780,023 entitled "INTRANET SCANNING TERMINAL SYSTEM" filed on December 20, 1996, **U.S. Patent No. 6,084,528[currently pending]**, which is a continuation in part of United States Patent Application serial number 08/706,579 entitled "DEVICE AND METHOD FOR SECURE DATA UPDATES IN A SELF-CHECKOUT SYSTEM" filed on September 5, 1996, **[currently pending.]U.S. Patent No. 5,825,002, all of which are incorporated herein by reference in their entirety.**

Page 6, seventh paragraph has been AMENDED as follows:

FIG. 10A, 10B, **and 10C[, and 10D]** are functional block diagrams of a preferred embodiment of a phone and an access point connecting to the bus of a host device;